

REMARKS

In response to the Office Action mailed January 17, 2003, Applicants respectfully request reconsideration. To further the prosecution of this application, the rejections set forth in the Office Action are addressed below and amendments have been made in the claims. The claims as presented are believed to be in allowable condition.

I. Rejection of Claims Under 35 U.S.C. §102(e)

In ¶4 of the Office Action, claims 11, 12, 14, 16-24, 27 and 28 are rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,751,997 (Kullick). Independent claim 11 has been amended to clarify the term “a heterogeneous plurality of host computers,” and independent claim 19 has been amended to further clarify the nature of “the first one of the primary storage elements.” As discussed below, Applicants respectfully traverse the rejection of claims 11, 12, 14, 16-24, 27 and 28, as these claims are believed to be allowable over Kullick notwithstanding the clarifying amendments made to claims 11 and 19.

Kullick is directed to a method and apparatus for storing archival data from multiple computers on centralized mass storage devices in a networked environment (Abstract). The communication network 12, which may be a local-area network or high-speed network such as AppleTalk, Ethernet or Token Ring, connects at least one primary storage device 14, at least one secondary storage device 16, and at least one computer device 18 (Col. 4, lines 45-53; Fig. 2a). Repeated backup operations are performed for disks 21 on the computer devices 18 on the network (Abstract). First, data is transferred from a disk 21 to the secondary storage device 16 during a backup initialization (Abstract). Next, the disk 21 is incrementally backed up to a primary storage device 14, which is backed up to the secondary storage device 16 when a predetermined time or specified event occurs (Abstract).

a. Claim 11

Claim 11 recites a computer system that includes, *inter alia*, a heterogeneous plurality of host computers including at least a first host computer comprising a first platform and a second

computer comprising a second platform different from the first platform. Kullick does not teach or suggest such heterogeneous host computers.

According to the Office Action, “Kullick discloses that the computer device 18 can be any of various types of specialized computer devices (see column 4, lines 66-67).” Additionally according to the Office Action, since Kullick has not limited his computer devices 18 to a specific type of computer device 18, “computer devices 18 cover all varieties of computing devices as disclosed by Kullick.”

Although Kullick states that computer device 18 may be one of a number of different types of computer devices (i.e., “a personal computer, workstation, minicomputer or large computer, or other specialized computing device”), Kullick does not disclose or suggest that the computer devices 18, taken as a whole, may include different types of computer devices. Specifically, Applicants note that the computer devices 18, as shown in Figure 1, are all designated with the same reference character (i.e., 18). Pursuant to 37 C.F.R. 1.84(p)(4), “[t]he same part of an invention... must always be designated by the same reference character, and the same reference character must never be used to designate different parts,” (emphasis added). Although Kullick states computer device 18 may be any one of a number of different types of computer devices, all of the computer devices 18 illustrated in Figure 1 are necessarily of the same type. Thus, Kullick does not disclose, teach, or suggest a heterogeneous plurality of host computers as recited in claim 11.

Further, the computer devices 18 of Kullick clearly do not include at least a first host computer comprising a first platform and a second computer comprising a second platform, as recited in claim 11. As defined in Applicants’ specification at page 19, lines 28-29, a platform refers to the “combination of a host, operating system and applicable data management application.” Kullick makes no reference to different platforms for the computer devices 18. Although Kullick mentions that computer device 18 may be one of a number of different types of computer devices, Kullick merely refers to different hardware implementations of the computer device 18, and does not suggest that the computer device 18 may be one of different types of platforms. Moreover, because the backup methodology of Kullick is based on a particular type of directory and file-indexing structure, the ability in Kullick to backup multiple computers 18 requires that the computers comprise the same platform (Col. 5, line 46 – Col. 6, line 6).

Thus, nothing in Kullick discloses a heterogeneous plurality of host computers including at least a first host computer comprising a first platform and a second computer comprising a second platform different from the first platform. Accordingly, Kullick cannot anticipate claim 11. Applicants respectfully request that the rejection of claim 11 under 35 U.S.C. §102(e) be withdrawn.

Claims 12-18 and 27 depend from claim 11, and are believed to be allowable for at least the same reasons.

b. Claim 19

Claim 19 recites a method of transferring data from at least one of a plurality of primary storage elements to a secondary storage element. The method includes a step of automatically establishing a first connection through a network from a first one of the primary storage elements, *which serves as primary non-backup storage for a host computer coupled thereto*, to the secondary storage element to transfer a first logical object to the secondary storage element. Kullick does not teach or suggest the recited method of transferring data.

In Kullick, data is copied from a disk 21 on a computer device 18 to what is termed a primary storage device 14, and subsequently from the primary storage device 14 to a lower cost, higher density, secondary storage device 16 (Col. 1, lines 32-36; Col. 7, lines 9-16). As stated in Kullick, this is commonly known as “backing up the system” (Col. 1, lines 36-37). In view of the foregoing, Applicants respectfully disagree with the assertion in the Office Action that “the primary purpose of the primary storage device,” in Kullick, “is not to serve as a backup device” (Office Action at page 11). On the contrary, Applicants submit that Kullick specifically refers to primary storage device 14 as a backup device, and discloses that backup data is copied to the primary storage device 14.

It should be appreciated that the “primary storage device 14” of Kullick serves a different purpose than the storage element referred to in Applicants’ specification as “primary storage node 82a” (see e.g., page 20, lines 11-13 of Applicants’ specification). Specifically, primary storage node 82a serves as primary storage for a host computer, rather than primary *backup* storage. Accordingly, Applicants have amended claim 19 to clarify the nature of the primary

storage elements referred to in claim 19, of which primary storage node 82a is but one example, and thereby clearly distinguish the recited primary storage elements from the primary storage devices 14 of Kullick.

As amended, claim 19 recites a step of automatically establishing a first connection through a network from a first one of the primary storage elements, *which serves as primary non-backup storage for a host computer coupled thereto*, to the secondary storage element to transfer a first logical object to the secondary storage element. The primary storage devices 14 of Kullick do not serve as “primary non-backup storage” for computers 18 since, as discussed above, primary storage devices 14 store data backed up from disks 21 of computer devices 18. Therefore, the primary storage elements of claim 19 may not be read on primary storage devices 14 of Kullick.

Thus, nothing in Kullick discloses a step of automatically establishing a first connection through a network from a first one of the primary storage elements, which serves as primary non-backup storage for a host computer coupled thereto, to a secondary storage element to transfer a first logical object to the secondary storage element. Accordingly, Kullick cannot anticipate claim 19. Applicants respectfully request that the rejection of claim 19 under 35 U.S.C. §102(e) be withdrawn.

Claims 20-25 and 28 depend from claim 19, and are believed to be allowable for at least the same reasons.

II. Rejection of Claims Under 35 U.S.C. §103(a)

In ¶6 of the Office Action, claims 1-8 and 10 and 26 are rejected under 35 U.S.C. §103(a) as being obvious over Kullick in view of U.S. Patent No. 6,065,062 (Periasamy). In ¶7, claims 15 and 25 are rejected under 35 U.S.C. §103(a) as being obvious over Kullick. In ¶8, claim 13 is rejected under 35 U.S.C. §103(a) as being obvious over Kullick in view of U.S. Patent No. 5,535,381 (Kopper). In ¶9, claim 9 is rejected under 35 U.S.C. §103(a) as being obvious over Kullick in view of Periasamy and further in view of Kopper.



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APR 24 2003

Technology Center 2100

a. Claim 1

Claim 1 recites a computer system that includes, *inter alia*, a switched network coupled to a plurality of primary storage devices and to a secondary storage device to permit one of the primary storage devices to access the secondary storage device through the switched network. The Office Action concedes that Kullick does not teach the use of a switched network as recited in claim 1. However, the Office Action alleges that "Periasamy discloses the use of a switched network connecting primary and secondary storage devices for data backup [col. 1, lines 10-22]." Applicants disagree, and respectfully assert that Periasamy is completely unrelated to data storage, as discussed in detail below.

Periasamy is directed to assigning backup routing devices to handle traffic between remote routing devices and a central computational facility when a primary router fails or becomes overloaded (Abstract; Col. 8, lines 15-23). At least one backup routing device from a pool of backup routing devices is designated for each primary routing device (Col. 6, lines 19-21 and 46-48). Each backup routing device is capable of establishing a circuit between the central computational facility and a remote routing device upon failure of the primary routing device (col. 6, lines 48-50).

The portion of Periasamy cited in the Office Action (i.e., Col. 1, lines 10-22) explains that an "end station" of a computer network refers to a data source or target that typically does not provide routing services to other computers on the network. Hence, this passage clearly does not disclose a switched network between storage devices, as suggested in the Office Action, and recited in claim 1. In fact, neither data storage nor data backup are discussed in Periasamy. As may be appreciated from the above discussion, the "backup peers" referred to in Periasamy are routing devices, rather than data storage devices.

Thus, neither Kullick nor Periasamy, nor any combination thereof, discloses a switched network coupled to a plurality of primary storage devices and to a secondary storage device to permit one of the primary storage devices to access the secondary storage device through the switched network. Accordingly, Kullick and Periasamy cannot render obvious claim 1. Applicants respectfully request that the rejection of claim 1 under 35 U.S.C. §103(a) be withdrawn.

Claims 2-10 and 26 depend from claim 1, and are believed to be allowable for at least the same reasons.

b. Dependent Claims 2-10, 13, 15, and 25-26

Claims 2-10 and 26, 13 and 15, and 25 depend from independent claims 1, 11, and 19, respectively, and are believed to be allowable for at least the same reasons as the independent claims. Accordingly, for the sake of brevity, Applicants believe that it is unnecessary at this time to individually argue the allowability of claims 2-10, 13, 15, and 25-26, and reserve the right to specifically address the patentability these claims in the future, if deemed necessary.

III. Drawings

Each of Figures 2B, 2C, 5, 6, and 7 has been amended to include the label "Prior Art," pursuant to the requirement that such a legend be included in these figures (see Office Action mailed August 1, 2000). By labeling these figures as "Prior Art," Applicants do not concede that the structures depicted therein are prior art when used in conjunction with various aspects of Applicants' invention.

Conclusion

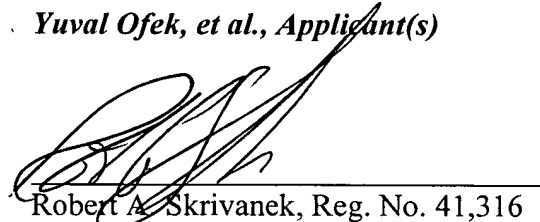
In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicants' attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Respectfully submitted,

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Docket No. E00295/70080
Date: April 17, 2003.



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11. (Twice Amended) A computer system comprising:
a heterogeneous plurality of host computers including at least a first host computer comprising a first platform and a second computer comprising a second platform different from the first platform;

a plurality of primary storage devices to receive and store data in the devices, each primary storage device being associated with at least one of the host computers; and
a secondary storage device to receive and store data in the device, coupled to a plurality of the primary storage devices, the secondary storage device being configured to receive backup data from each of the host computers.

19. (Five Times Amended) A method of transferring data from at least one of a plurality of primary storage elements to a secondary storage element, the method comprising steps of:
automatically establishing a first connection through a network from a first one of the primary storage elements, which serves as [the] primary non-backup storage for [a CPU of] a host computer coupled thereto, to the secondary storage element to transfer a first logical object to the secondary storage element; and

transferring the first logical object from the first one of the primary storage elements directly to the secondary storage element over the first connection.